

## Canopy for Co-Sleeper, Crib or Play Yard

### Field of Invention

The instant invention relates to canopies or covers for enclosure for infants and young  
5 children. In particular the invention is designed to be easily attached to and removed from  
bedside co-sleepers, cribs and play yards.

### Background of the Invention

Enclosure for infants and young children are often used in outdoor environments or in  
10 rooms with open doors and windows, particularly in warm weather. Under such  
circumstances children in such enclosures are often a target for insects and even projectiles  
thrown by other children. In addition, direct exposure to sunlight can be particularly harmful  
to infants and young children who are often unable to escape the sun's rays in such enclosures.  
Various types of canopies and covers for play yards and other enclosures have been developed  
15 to deal with these problems.

U.S. Patent No. 6,516,823, issued to *Glover et al.* teaches a collapsible play yard  
canopy for covering the top of a play yard. When not in use, the canopy can easily be  
collapsed and stored. The canopy includes an umbrella-like structure and a canopy cover that  
is configured to be opened to gain access into the play yard. A zipper connector is provided to  
20 join adjacent flaps in the front of a ceiling panel of canopy cover

U.S. Patent No. 6,550,083, issued to *LaMantia* discloses a crib and playpen protective covering. The enclosure includes a dome-shaped top with opposed end panels and side panels. The structure of the enclosure may be comprised of a mesh cloth, however, portions may be covered with reinforcing fabric or other materials as necessary. The top of the structure is supported by two semi-rigid ribs to define the dome structure and when removed from the crib may be rolled or compressed for storage. A flap is included in the dome-shaped top in order to provide access to the interior.

U.S. Patent Application Publication No. 2002/0092554 by *Ham et al.* is directed to a canopy tent with automatic umbrella-type collapsible frame.

U.S. Patent No. 5,666,986, issued to *Fox* discloses a tent frame device that includes an umbrella-like structure that may be used as a tent or cover. Fabric sheet material is suspended from the frame and has a zipper defining a door for access to the interior portion of the device.

U.S. Patent Application Publication No. 2003/00152706 by *McClenahan et al.* teaches an adjustable table cover system similar to a play yard canopy. The cover may be made from any material such as plastic, cotton, or linen and includes a channel region within which may be placed an elastic ribbon to tightly secure the cover around the perimeter of the table.

It is an objective of the present invention to provide a canopy for use with a wide variety of co-sleepers, cribs and play yards. It is a further objective of the invention to provide a canopy that is easily installed on the desired enclosure without need for special fittings or fixtures. It is still a further objective of the present invention that the unit be simple to erect and collapsible for transport and storage. It is yet a further objective that the canopy provide protection for infants and young children from sunburn and insects. Finally, it is an objective

of the invention that the canopy design consider and address all possible safety considerations related to its use. Other features and advantages of the invention will be seen from the following description and drawings. The present invention addresses many of the deficiencies of prior art canopy and enclosure inventions and satisfies all of the objectives described above.

5    Summary of the Invention

(1) A canopy for a co-sleeper, crib or play yard having a frame that is sized and shaped to extend over a perimeter of a co-sleeper, crib or play yard is provided. The frame has at least three canopy support arms and an arm attachment portion. Each of the canopy support arms have a first end, a second end and are attached at the first end to the arm attachment  
10   portion.

A canopy cover is provided. The canopy cover has an inner surface and an outer surface and is sized and shaped to fit over the frame. The canopy cover has a top and a surrounding lower edge and is formed of flexible material

An elastic member is provided. The elastic member urges the canopy support arms  
15   and surrounding lower edge of the canopy cover toward the perimeter.

(2) In a variant of the invention, the canopy support arms are formed of resilient material.

(3) In a further variant of the invention, the arm attachment portion contains pivotal attachments for each of the canopy support arms.

20       (4) In yet a further variant of the invention, the pivotal attachments for each of the canopy support arms limit upward travel of each of the support arms to a plane parallel to an upper surface of the arm attachment portion.

(5) In still a further variant, means are provided for securing the support arms in the plane parallel to the upper surface of the arm attachment portion.

(6) In still another variant, the means for securing the support arms in the plane parallel to the upper surface of the arm attachment portion includes at least three channels.

- 5 Each of the channels has a base, a pair of downward extending sides and means for pivotally attaching the first end of the support arm. The channels are sized and shaped to fit slidably about the first end of the support arms.

Each of the channels is mounted to a lower surface of the arm attachment portion. A cover piece is provided. The cover piece has at least three slots. The slots are sized and  
10 shaped to fit slidably about the first end of the support arm and are aligned to permit rotation of the support arms. The cover piece is rotatably mounted to the lower surface of the arm attachment portion, and has means attached to a lower surface of the cover piece to assist manual rotation of the cover piece. When the cover piece is rotated to align the slots with the  
15 channels, the support arms are pivotable with respect to the arm attachment portion. When the cover piece is rotated to cover the channels, the support arms will be secured in the plane parallel to the upper surface of the arm attachment portion.

(7) In yet another variant the means for securing the support arms in the plane parallel to the upper surface of the arm attachment portion includes at least three channels. Each of the channels has a base, a pair of downward extending sides, means for pivotally attaching the  
20 first end of the support arm. The channels are sized and shaped to fit slidably about the first end of the support arms. Each of the channels is mounted to a lower surface of the arm attachment portion. A cover piece is provided. The cover piece has at least three slots. The

slots are sized and shaped to fit slidably about the first end of the support arm and aligned to permit rotation of the support arms. The cover piece is rotatably mounted to the lower surface of the arm attachment portion, and has means attached to an upper surface of the cover piece to assist manual rotation of the cover piece. Each of the means extends upwardly through  
5 arcuate slots in the arm attachment portion. When the cover piece is rotated to align the slots with the channels, the support arms are pivotable with respect to the arm attachment portion and when the cover piece is rotated to cover the channels, the support arms will be secured in the plane parallel to the upper surface of the arm attachment portion.

(8) In still another variant, each of the means extending upwardly through arcuate  
10 slots in the arm attachment portion terminates in a knob for ease of turning.

(9) In still a further variant of the invention, the canopy cover is formed of mesh material.

(10) In another variant, the canopy cover has a reclosable opening that permits access to an interior of the co-sleeper, crib or play yard.

15 (11) In yet another variant, the canopy cover has at least one hanger attached to the inner surface for suspending items within the canopy cover.

(12) In still a further variant, the canopy cover has a central opening in the top. The opening is sized and shaped to permit access to the arm attachment portion of the frame.

(13) In another variant of the invention, the canopy cover has a reclosable cover for the  
20 central opening.

(14) In yet another variant of the invention, the canopy cover has at least one tubular enclosure. The tubular enclosure is located upon the inner surface of the canopy cover. The

enclosure has a first end spaced outwardly from the central opening in the top and a second end spaced from the first end, and is sized and shaped to fit slidably over one of the canopy support arms. The tubular enclosure also has an opening at the first end for introduction of one of the canopy support arms.

5           (15) In a further variant of the invention, the tubular enclosure has a closed second end.

          (16) In yet a further variant of the invention, the closed second end of the tubular enclosure is adjacent to the surrounding lower edge of the canopy cover.

          (17) In another variant, the elastic member is integral with the surrounding lower edge  
10 of the canopy cover.

          (18) In yet another variant, the elastic member is located between at least two points that are located upon the inner surface of the canopy cover. The points are spaced downwardly from the top.

          (19) In a final variant, the inner surface of the canopy cover that has frictional  
15 elements disposed adjacent the surrounding lower edge for securing the canopy to the perimeter.

#### Description of the Drawings

**Figure 1** is a perspective view of a first embodiment of a canopy for a co-sleeper, crib  
20 or play yard attached to a co-sleeper;

**Figure 2** is a detailed side elevational view of the canopy illustrating a frame, a canopy cover and a reclosable opening;

**Figure 3** is a detailed plan view of the outer surface of the of the canopy cover, illustrating tubular enclosures and a central opening; and

**Figure 4** is a detailed perspective view illustrating an outer surface of the canopy cover, the frame, the arm attachment portion, the tubular enclosures and a central opening;

5        **Figure 5** is a perspective view of the canopy for a co-sleeper, crib or play yard attached to co-sleeper illustrating the elastic member located upon the inner surface of the canopy cover; and

**Figure 6** is a perspective view of an alternative design for a means for securing the support arms in the plane parallel to the upper surface of the arm attachment portion.

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#### Detailed Description

(1) As illustrated in **Figures 1-6**, a canopy **10** for a co-sleeper **15**, crib (not shown) or play yard (not shown) having a frame **20** that is sized and shaped to extend over a perimeter **25** of a co-sleeper **15**, crib or play yard is provided. The frame **20** has at least three canopy support arms **30** and an arm attachment portion **35**. Each of the canopy support arms **30** have a first end **40**, a second end **45** and are attached at the first end **40** to the arm attachment portion **35**.

A canopy cover **55** is provided. The canopy cover **55** has an inner surface **60** and an outer surface **65** and is sized and shaped to fit over the frame **20**. The canopy cover **55** has a top **70** and a surrounding lower edge **75** and is formed of flexible material **77**.

An elastic member **80** is provided. The elastic member **80** urges the canopy support arms **30** and surrounding lower edge **75** of the canopy cover **55** toward the perimeter **25**.

(2) In a variant of the invention, as shown in **Figures 1 and 4**, the canopy support arms **30** are formed of a resilient material **32**.

(3) In a further variant of the invention, as shown in **Figure 4**, the arm attachment portion **35** contains pivotal attachments **85** for each of the canopy support arms **30**.

5       (4) In yet a further variant of the invention, also shown in **Figure 4**, the pivotal attachments **85** for each of the canopy support arms **30** limit upward travel of each of the support arms **30** to a plane **90** parallel to an upper surface **95** of the arm attachment portion **35**.

(5) In still a further variant, as shown in **Figure 4**, means **160** are provided for securing the support arms **30** in the plane **90** parallel to the upper surface **95** of the arm attachment  
10       portion **35**.

(6) In still another variant, as shown in **Figure 4**, the means **160** for securing the support arms **30** in the plane **90** parallel to the upper surface **95** of the arm attachment portion **35** includes at least three channels **165**. Each of the channels **165** has a base **170**, a pair of downward extending sides **175** and means (not shown) for pivotally attaching the first end **40**  
15       of the support arm **30**. The channels **165** are sized and shaped to fit slidably about the first end **40** of the support arms **30**.

Each of the channels **165** is mounted to a lower surface **180** of the arm attachment portion **35**. A cover piece **185** is provided. The cover piece **185** has at least three slots **190**. The slots **190** are sized and shaped to fit slidably about the first end **40** of the support arm **30**  
20       and are aligned to permit rotation of the support arms **30**. The cover piece **185** is rotatably mounted to the lower surface **225** of the arm attachment portion **35**, and has means **195** attached to a lower surface **200** of the cover piece **185** to assist manual rotation of the cover



piece **185**. When the cover piece **185** is rotated to align the slots **190** with the channels **165**, the support arms **30** are pivotable with respect to the arm attachment portion **35**. When the cover piece **185** is rotated to cover the channels **165**, the support arms **30** will be secured in the plane **90** parallel to the upper surface **225** of the arm attachment portion **35**.

- 5           (7) In still another variant, as shown in **Figure 6**, the means **160** for securing the support arms **30** in the plane **90** parallel to the upper surface **95** of the arm attachment portion **35** includes at least three channels **165**. Each of the channels **165** has a base **170**, a pair of downward extending sides **175** and means (not shown) for pivotally attaching the first end **40** of the support arm **30**. The channels **165** are sized and shaped to fit slidably about the first  
10   end **40** of the support arms **30**.

- Each of the channels **165** is mounted to a lower surface **180** of the arm attachment portion **35**. A cover piece **185** is provided. The cover piece **185** has at least three slots **190**. The slots **190** are sized and shaped to fit slidably about the first end **40** of the support arm **30** and are aligned to permit rotation of the support arms **30**. The cover piece **185** is rotatably  
15   mounted to the lower surface **225** of the arm attachment portion **35**, and has means **205** attached to an upper surface **210** of the cover piece **185** to assist manual rotation of the cover piece **185**. Each of the means **205** extends upwardly through arcuate slots **215** in the arm attachment portion **35**. When the cover piece **185** is rotated to align the slots **190** with the channels **165**, the support arms **30** are pivotable with respect to the arm attachment portion **35**.  
20   When the cover piece **185** is rotated to cover the channels **165**, the support arms **30** will be secured in the plane **90** parallel to the upper surface **95** of the arm attachment portion **35**.

(8) In still another variant, each of the means **205** extending upwardly through arcuate slots **215** in the arm attachment portion **35** terminates in a knob **220** for ease of turning.

(9) In still a further variant of the invention, as shown in **Figures 1, 2, 3, 4 and 5**, the canopy cover **55** is formed of a mesh material **100**.

5 (10) In another variant, as shown in **Figures 1, 2 and 5**, the canopy cover **55** has a reclosable opening **105** that permits access to an interior **110** of the co-sleeper **15**, crib or play yard.

(11) In yet another variant, as shown in **Figures 1 and 5**, the canopy cover **55** has at least one hanger **115** attached to the inner surface **60** for suspending items within the canopy  
10 cover **55**.

(12) In still a further variant, as shown in **Figures 3 and 4**, the canopy cover **55** has a central opening **120** in the top **70**. The opening **120** is sized and shaped to permit access to the arm attachment portion **35** of the frame **20**.

(13) In another variant of the invention, as shown in **Figures 1, 2, 3, 4 and 5** the  
15 canopy cover **55** has a reclosable cover **125** for the central opening **120**.

(14) In yet another variant of the invention, as shown in **Figures 1, 2, 3, 4 and 5** the canopy cover **55** has at least one tubular enclosure **130**. The tubular enclosure **130** is located upon the inner surface **60** of the canopy cover **55**. The tubular enclosure **130** has a first end **135** spaced outwardly from the central opening **120** in the top **70** and a second end **140** spaced  
20 from the first end **135**, and is sized and shaped to fit slidably over one of the canopy support arms **30**. The tubular enclosure **130** also has an opening **145** at the first end **135** for introduction of one of the canopy support arms **30**.

(15) In a further variant of the invention, as shown in **Figures 1, 2 and 5**, the tubular enclosure **130** has a closed second end **140**.

(16) In yet a further variant of the invention, shown in **Figures 1, 2 and 5**, the closed second end **140** of the tubular enclosure **130** is adjacent to the surrounding lower edge **75** of the canopy cover **55**.

(17) In another variant, as shown in **Figures 1 and 2**, the elastic member **80** is integral with the surrounding lower edge **75** of the canopy cover **55**.

(18) In yet another variant, as shown in **Figure 5**, the elastic member **80** is located between at least two points **150** that are located upon the inner surface **60** of the canopy cover **55**. The points **150** are spaced downwardly from the top **70**.

(19) In a final variant, as shown in **Figures 1 and 2**, the inner surface **60** of the canopy cover **55** that has frictional elements (not shown) located adjacent the surrounding lower edge **75** for securing the canopy **10** to the perimeter **25**.

The canopy **10** for a co-sleeper, crib or play yard has been described with reference to particular embodiments. Other modifications and enhancements can be made without departing from the spirit and scope of the claims that follow.